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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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20210	7590	07/27/2006	EXAMINER	
DAVIS & BUJOLD, P.L.L.C. 112 PLEASANT STREET CONCORD, NH 03301			MULLER, BRYAN R	
			ART UNIT	PAPER NUMBER
			3723	
DATE MAILED: 07/27/2006				

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.		Applicant(s)	
	10/533,108		WEILAND, JOSEF	
	Examiner		Art Unit	
	Bryan R. Muller		3723	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 27 May 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 39-76 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 39-46, 48-59, 61 and 71-76 is/are rejected.
- 7) ☐ Claim(s) 47, 60 and 62-70 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 28 April 2005 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date <u>4/28/05, 5/19/06</u> | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Drawings

1. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the embodiment of the apparatus wherein the conveyor guides the brush past the region of the work piece that is to be machined **obliquely** with respect to a direction of advance of the work piece (claims 39, 41 and 76) and the wavy or twisted bristle profile (claim 51) must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.
2. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Objections

3. Claims 49 and 67 are objected to because of the following informalities: the term “means” is included in the claim language but it is not used in conjunction with either “for” or “two” in order to invoke 35 U.S.C. 112, sixth paragraph. If the applicant intends to invoke 35 U.S.C. 112, sixth paragraph, the claim must be amended to include the terms “means to” or “means for” or if 35 U.S.C. 112, sixth paragraph is not intended to be invoked, the term “means” should be changed to an equivalent term, so as to clarify that 35 U.S.C. 112, sixth paragraph is not invoked. Claim 67 also improperly recites the term “means” and does not invoke 35 U.S.C. 112, sixth paragraph because of the structure recited in the claim, thus the term “means” in claim 67 should also be changed to an equivalent term. Appropriate correction is required.

4. Claims 56, 62, 63 and 75 are objected to because of the following informalities: The claims appear to have limitations which are product-by process limitations. The claims disclose different types of connections, thus positively claiming that one part is connected to another, but the inclusion of terms such as molded, adhesively bonded, welded, etc. provide product-by process claims. The limitations provide several different functions that may be used to attach the parts but do not positively recite any additional structure that connects the pieces. The terms molded, stamped and welded do not invoke any additional structure that is used to connect the pieces and thus may only be product-by process limitations, however, the limitations of being adhesively bonded, screwed or clipped may be positively recited as the two pieces being

connected by (positive structure of) screw, adhesive material or clips. Appropriate correction is required.

5. Claim 65 also comprises the product-by process limitations of the bristles being "shot" into the carrier. The claim does disclose that the bristles are located in the carrier in bundles but the limitation of shooting the bristles is a product-by-process limitation.

6. Claim 62 is objected to because of the following informalities: the abbreviation "PU" may stand for many things. It is suggested by the examiner that the applicant write out "polyurethane" to clarify what material is being claimed. Appropriate correction is required.

7. Claim 74 is objected to because of the following informalities: the term "the steel roll" lacks antecedent basis. It is assumed by the examiner that the applicant is intending to refer to the "resistance element" that is recited in the previous claims, from which claim 74 depends. Appropriate correction is required.

Claim Rejections - 35 USC § 112

8. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

9. Claims 39-76 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claims 39-74 appear to be claims to an apparatus but for the most part fail to positively recite specific structure. For example, the

limitations of claim 39 recite “wherein a revolving conveyor device is provided with at least one brush” and that the conveyor device “guides the at least one brush”. The limitations appear to be attempting to claim structure of the apparatus based on functions of the apparatus and include limitations such as the brush being “provided” that appear to be closer to method claims than apparatus. If the applicant intends the claims to be apparatus claims, the claim should be amended to recite that the apparatus “comprises a revolving conveyor device having at least one brush...” in such a manner that the actual structure that the applicant intends to include in the claim is positively recited as being comprised by the apparatus. It is also unclear if claim 75 is intended to be a dependent claim under claim 39 or if the applicant is attempting to claim, in independent form, a V-belt that is intended to be used with the apparatus of claim 39. Again, the applicant should amend the claim to positively recite the structure (i.e. a V-belt comprising bristles...). Finally, claim 76 appears to be attempting to claim a method but fails to positively recite any method steps. The applicant should amend the claim to positively recite such method steps as **providing** a rotating conveyor device or **providing** a conveyor device and **rotating** said conveyor device and **providing** at least one brush.

10. Claim 45 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The claim recites the limitation “in each case” but fails to disclose (in the claim or in the independent claim) what different cases there may be. Thus, it is unclear what the applicant is intending to claim.

11. Claim 67 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claim 67 recites that "the segments each have a groove...and a tongue...by means of which the segments are connected". However, claim 66, from which claim 67 depends, recites that the carrier is formed having slots **or** in segments. Thus, claims 66 and 67 do not necessarily claim separate segments that may be attached to one another, and it is unclear how each segment may have a tongue and groove and that are used to connect each segment in the case that the carrier is merely formed with slots.

12. Claim 73 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The claim recites that "the resistance element one of mechanically and prevents the bristles from yielding". It is unclear if the applicant is intending to claim that the resistance element may prevent the bristles from yielding in some other way than mechanically or if the applicant is intending to claim that the resistance member may mechanically do something other than preventing the bristles from yielding.

Claim Rejections - 35 USC § 103

13. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the

invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

14. Claims 39-43, 48-52, 54-59 and 76 are rejected under 35 U.S.C. 103(a) as being unpatentable over Peterson (2,989,764) in view of Herrington (2,767,413) or alternatively in view of McCormick et al (2,958,882).

15. In reference to claim 39, Peterson discloses an apparatus for machining a metallic work piece in strip or plate form, in particular for cleaning or finishing, which may include removal of unwanted layers such as an oxide layer from a cut surface or cut edge of the work piece, wherein a revolving conveyor device (65) is provided with at least one brush (93), the conveyor device guides the at least one brush at least approximately linearly past the region of the work piece that is to be machined. Although Peterson does not specifically disclose that the brushes are capable of removing an oxide layer, it is disclosed that a wide variety of belt brushes may be utilized in the Peterson apparatus (col. 1, lines 51-53) and it is well known in the art that a desired step when cleaning and finishing metal sheets is removal of an oxide layer, also known as descaling or pickling metal (as taught by Herrington). Therefore, it would have been obvious to one of ordinary skill in the art that brushes may be provided to the Peterson apparatus that would be suited for the removal of an oxide layer on the metal sheets. Peterson also fails to disclose that the brush is guided past the region of the work piece that is to be machined obliquely or transversely with respect to a direction of advance of the work piece. Herrington discloses a similar apparatus for pickling metal sheets or strips wherein brushes are linearly passed along the surface of the sheets in a direction that is transverse to the feed direction of the work piece and McCormick also

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discloses an apparatus that comprises opposed brush belts, similar to Peterson, wherein the belts are situated such that the brushes are linearly passed along the surface of the sheets in a direction that is transverse to the feed direction of the work piece, thus teaching that brushing apparatus, such as Peterson are also known to be oriented such that the brushes are linearly passed along the surface of the sheets in a direction that is transverse to the feed direction of the work piece. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made that the brushes of Peterson may alternatively be oriented such that the brushes are linearly passed along the surface of the sheets in a direction that is transverse to the feed direction of the work piece, while still providing an equivalent function, as taught by Herrington or McCormick.

16. In reference to claim 40, Peterson further discloses that the conveyor device is arranged in a lying position, so that the at least one brush (3) runs substantially horizontally in the region of the work piece.

17. In reference to claim 41, Peterson further discloses that two conveyor devices are provided between which the work piece can be guided transversely with respect to the direction of rotation of the conveyor device, in such a manner that each conveyor device machines one of two main surfaces of the work piece by the associated brushes.

18. In reference to claim 42, Peterson does not specifically disclose the direction of rotation of the two conveyor devices but does provide a stop piece (50) to hold the work piece from being pushed out of the conveyors, thus making it obvious that at least 1 and

most likely both conveyors are moving in the direction of the stop piece, and thus in the same direction.

19. In reference to claim 43, the apparatus disclosed by McCormick is oriented in a standing position and the work piece is supported on a base plate (10a). Therefore, it further would have been obvious to one of ordinary skill in the art that the Peterson apparatus may also be oriented vertically and that a base plate can be provided to support the work piece during operation and it would further be obvious to drive both conveyors in the direction of the base plate such that any debris removed from the work piece is swept away from the main surfaces of the work piece.

20. In reference to claim 48, Peterson further discloses that at least one conveyor device has a plurality of brushes arranged at a spacing distance from one another.

21. In reference to claim 49, Peterson further discloses that there is a guide passage (between 81 and 84), which can be set to the thickness of the work piece and by means of which the work piece can be displaced with a guidance transversely with respect to the direction of rotation of the at least one guide device.

22. In reference to claim 50, Peterson further discloses that the conveyor devices can be displaced or adjusted with respect to one another (part 79).

23. In reference to claim 51, Herrington further discloses that the bristles for a brush that is designed to remove an oxide layer may have

24. In reference to claim 52, Peterson further discloses that the bristles of the brush are formed as abrasive bristles. It is inherent that the bristles have abrasive properties in order to polish the metal plate or remove an oxide layer.

25. In reference to claim 55, Peterson further discloses that a bundle of bristles is surrounded by a stabilizing and supporting sheath (96).

26. In reference to claim 56, Peterson fails do disclose how the brush is attached to the conveyor device, however, McCormick discloses that each brush is attached to the conveyor by bolts (38) which may also be considered to be screwed to the conveyor device. Therefore, it would have been obvious that the brushes of Peterson may also be screwed to the conveyor.

27. In reference to claim 57, Peterson fails to disclose the specific speed at which the brushes are rotated, but it would be obvious that different speeds would be desired for different work pieces under different circumstances and it would further be found obvious through routine experimentation, depending on the desired work piece, to rotate the brushes at a speed within 5-30m/s.

28. In reference to claim 58, Peterson further discloses that each conveyor device has an independent drive.

29. In reference to claim 59, Peterson further discloses that the conveyor device is a chain.

30. In reference to claim 76, the method for machining a metallic work piece using the apparatus formed by the obvious combination of Peterson in view of Herrington or McCormick, would inherently comprise a rotating conveyor device, which is provided with at least one brush operated such that the at least one brush runs at least approximately linearly in a region corresponding to the dimensions of the work piece,

and the work piece is guided past transversely with respect to the direction of rotation of the conveyor device, making contact with the brush.

31. Claim 44 is rejected under 35 U.S.C. 103(a) as being unpatentable over Peterson (2,989,764) in view of Herrington (2,767,413) or alternatively in view of McCormick et al (2,958,882) as applied to claim 39 and further in view of Fenton (2,158,694).

32. In reference to claim 44, the obvious combination of Peterson and Herrington or McCormick fails to disclose that the direction of the rotation of the conveyor devices is selected such that the brushes of the two conveyor devices can be guided past the main surfaces of the work piece in the same direction. Fenton discloses an apparatus that is very similar to the apparatus of Peterson and discloses rollers (9, 10 and 11) on both sides of the conveyor devices to support the work piece. It is also well known in the art that plates are commonly supplied to similar machines to support the work piece. Therefore, it would have been obvious to provide supports on both sides of the conveyor devices in the form of rollers, as taught by Fenton, or alternatively in the form of plates, which may be considered to be delimiting plates, such that the direction of rotation of the conveyor device arranged in a lying position is selected such that at least one brush can be guided past the work piece in the direction of the delimiting plate, which guides the work piece at one end side.

33. Claims 45, 46, 51 and 54 are rejected under 35 U.S.C. 103(a) as being unpatentable over Peterson (2,989,764) in view of Herrington (2,767,413) or alternatively in view of McCormick et al (2,958,882) as applied to claim 39 and further in view of Franke, Jr. (2,973,533) and Bange et al (6,352,471).

34. In reference to claim 45, the obvious combination of Peterson and Herrington or McCormick fails to disclose that four conveyor devices are provided such that two oppositely rotating conveyor devices machine one main surface of the work piece. Franke, Jr. discloses a cleaning apparatus that functions similarly to the Peterson apparatus, wherein there are two rows of brushes on each of the top and bottom surfaces, wherein each row of brushes rotates in the opposite direction of the other row of brushes on the corresponding surface, which will inherently provide a more even and complete polishing of the work piece. Further, Bange discloses brushes for cleaning, polishing and/or abrading articles and teaches that the brush may alternatively be a belt, disc or sheet (col. 20, line 34-44), thus teaching that abrasive belts (conveyor devices) would be interchangeable with disc brushes. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the Peterson apparatus with two rows of brushes on each side of the work piece that operate in opposite direction from one another, because, as disclosed by Franke, Jr., additional rows of brushes will provide a more even and thorough polish, cleaning or layer removal and as taught by Bange, disc brushes and belt brushes are interchangeable in the art, so it would have been obvious that providing the Peterson

apparatus with four belt brushes would provide the same advantages as the 4 rows of disc brushes disclosed by Franke, Jr.

35. In reference to claim 46, Franke, Jr. also discloses that the rows of disc brushes are slightly offset from one another with respect to the direction in which the work piece passes. This would inherently prevent any portions of the surface of the work piece from not being machined by either conveyor device. Although neither Peterson, nor Franke, Jr. disclose the specific distance between the offset conveyors, it would be obvious that the distance would vary depending on the desired size of the apparatus and the specific work piece that is to be machined and would further be obvious that a distance in the range of 10-100mm could be reached through routine experimentation.

36. In reference to claim 51, Franke, Jr. also discloses that each brush have long and short bristles, which form a wavy profile, such that the long bristles on the top brush overlap the short bristles on the corresponding bottom brush, which would again ensure that every part of the work piece was contacted by the bristles of at least one of the brushes. Therefore, it would have further been obvious to provide the brushes of Peterson with wavy profiles to ensure that the bristles of at least one of the brushes contacted every part of the work piece.

37. In reference to claim 54, Peterson discloses that the bristles on each brush are formed in bunches, thus, it would be inherent that the bristles support other bristles within the same bunch, thus providing the brush with supporting bristles for supporting and stabilizing bristles of the brush.

38. Claim 53 is rejected under 35 U.S.C. 103(a) as being unpatentable over Peterson (2,989,764) in view of Herrington (2,767,413) or alternatively in view of McCormick et al (2,958,882) as applied to claim 39 and further in view of Tayebi et al (5,220,754).

39. In reference to claim 53, the obvious combination of Peterson and Herrington or McCormick fails to disclose that the bristles of the brush are inclined by up to 45° in the direction of rotation. Tayebi discloses a polishing method comprising a brush wheel and discloses that different angles of the bristles, with respect to the direction of rotation of the brush may be adjusted to provide harsher or gentler brushing action (col. 2, lines 16-26. Therefore, it would have been obvious that the angle of the bristles on the Peterson brushes may be varied to achieve a desired brushing action and it would further be found obvious through routine experimentation, depending on the desired work piece, that the bristles of the brushes may be inclined by up to 45° in the direction of rotation.

40. Claim 61 is rejected under 35 U.S.C. 103(a) as being unpatentable over Peterson (2,989,764) in view of Herrington (2,767,413) or alternatively in view of McCormick et al (2,958,882) as applied to claim 39 and further in view of Wandres (5,943,725).

41. In reference to claim 61, the obvious combination of Peterson and Herrington or McCormick fails to disclose that the conveyor device is in the form of a V-belt or that the V-belt is formed of rubber, plastic, synthetic rubber or neoprene. Wandres discloses a

conveyor device for brushes and teaches that a V-belt is advantageous for brush conveyor devices because it can be drawn by guide pulleys at a sufficiently great force. Therefore, it would have been obvious to replace the conveyor device of Peterson with the V-belt conveyor device as disclosed by Wandres to provide sufficient force to the belt. Although Wandres fails to disclose what material the belt is made of it is well known in the art that typical V-belts are made of rubber or plastic, thus it would further be obvious to make the V-belt out of rubber or plastic.

42. Claims 71-74 are rejected under 35 U.S.C. 103(a) as being unpatentable over Peterson (2,989,764) in view of Herrington (2,767,413) or alternatively in view of McCormick et al (2,958,882) as applied to claim 39 and further in view of Soos (971,158).

43. In reference to claim 71, the obvious combination of Peterson and Herrington or McCormick fails to disclose a resistance element arranged downstream of a diversion point of the conveyor device, as seen in the direction of rotation, before one of the brush or bristles comes back into contact with the work piece. Soos discloses a sweeper that comprises a conveyor device having brushes mounted thereon and teaches that a resistance element (Q) may be located downstream of a diversion point to clear off any debris that may be stuck in the bristles of the brush. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the Peterson apparatus with a resistance element arranged downstream of a diversion point of the conveyor device, as seen in the direction of rotation, to remove any debris

from the brush before one of the brush or bristles comes back into contact with the work piece, as taught by Soos.

44. In reference to claim 72, the resistance element of Soos is positioned such that when the debris is knocked off of the bristles, it lands in a collection device and does not fall into the area of the work piece. Therefore, it further would have been obvious, at least on the lower conveyor device of Peterson to position the resistance element in the region in which the brush or its bristles leave the circular path produced by the diversion point and merge into a linear movement, because this is the position of the lower conveyor device where any falling debris will fall clear of the work piece and will not land on any other parts of the same conveyor.

45. In reference to claim 73, the resistance device will inherently make the bristles yield away from the direction of rotations, thus, preventing yielding in the direction of rotation.

46. In reference to claim 74, the resistance device can be introduced into the path of the brush such that the tips of the bristles butt against it.

47. Claim 75 is rejected under 35 U.S.C. 103(a) as being unpatentable over Peterson (2,989,764) in view of Herrington (2,767,413) or alternatively in view of McCormick et al (2,958,882) and Tayebi et al (5,220,754) as applied to claim 53 and further in view of Wandres (5,943,725).

48. As discussed supra, the combination of Peterson, Herrington or McCormick and Tayebi provides a V-belt that having bristles that may obviously be adhesively bonded,

molded or welded to the top side of the V-belt and Wandres makes it obvious to adjust the incline angle of the bristles on the brushes, thus it would be obvious in view of Peterson, Herrington or McCormick, Tayebi and Wandres to provide a V-belt having bristles on the top side, wherein the bristles are inclined by up to 45°.

Allowable Subject Matter

49. Claims 47, 60 and 62-70 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

50. Claims 62, 65 and 67 would be allowable if rewritten or amended to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, and/or objections set forth in this Office action.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Shimogori et al (4,406,761), Thym et al (3,983,889), Bogese (3,720,973), Derby (559,166), Seufert (582,509), Lisec (5,237,716), Armstrong (3,885,356), Paddock (2,312,186), Weber et al (2005/0005374), Rajala et al (2003/0140942), Johnson et al (5,679,067) and Hutchinson et al (5,634,397) all disclose apparatuses having at least some similar structure to the applicant's claimed invention. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Bryan R. Muller whose telephone number is (571) 272-

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4489. The examiner can normally be reached on Monday thru Thursday and second Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Joseph J. Hail III can be reached on (571) 272-4485. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

BRM BRM
7/24/2006



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